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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/054,964	SUMIYOSHI, NOBUYA	
	<b>Examiner</b>	<b>Art Unit</b>	
	Juan A. Torres	2611	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**  
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment - After Non-Final Rejection filed on 01/24/2007.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date <u>01-24-2007</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
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## **DETAILED ACTION**

### ***Drawings***

The modifications to the drawings were received on 01/24/2007. These modifications are accepted by the Examiner.

In view of the amendment filed on 01/24/2007, the Examiner withdraws drawings objections of the previous Office action.

### ***Specification***

The modifications to the specification were received on 01/24/2007. These modifications are accepted by the Examiner.

In view of the amendment filed on 01/24/2007, the Examiner withdraws Specification objections of the previous Office action.

### ***Claim Objections***

The modifications to the claims were received on 01/24/2007. These modifications are accepted by the Examiner.

In view of the amendment filed on 01/24/2007, the Examiner withdraws claims objections to claim 10 of the previous Office action.

### ***Allowable Subject Matter***

Claims 1-12 are allowable.

The following is an examiner's statement of reasons for allowance: claims 1-12 are allowed because the references cited fail to teach, as applicant has, a sampling clock generator circuit comprising a ring oscillator including series-connected  $m$  first inverters connected to a first power supply line, where  $m$  is an odd number equal to or

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larger than 3, a delay line including series-connected  $2m$  or  $2m-1$  second inverters connected to a second power supply line, for delaying an externally supplied clock signal, and a PLL circuit including a voltage controlled oscillation circuit for controlling an oscillation frequency of said ring oscillator by controlling a voltage of said first power supply line, a voltage of said second power supply line being set substantially equal to the voltage of said first power supply line and the delayed clock obtained by said second inverters is used as a sampling clock; a sampling clock generator circuit comprising a ring oscillator including series-connected  $m$  first inverters connected to a first power supply line, where  $m$  is an odd number equal to or larger than 3, a delay line including series-connected  $2m$  or  $2m-1$  second inverters connected to a second power supply line, for delaying an externally supplied clock, a first PLL circuit including a voltage controlled oscillation circuit for controlling an oscillation frequency of said ring oscillator by controlling a voltage of said first power supply line, a second PLL circuit for generating a control voltage for locking the clocks outputted said inverters of said delay line by comparing the phase of the external clock with the phase of the clocks outputted from said delay line, and a voltage setting circuit for setting the voltage of said second power supply line on the basis of the voltage of said first power supply line and the control voltage, the delayed clock obtained from said second inverters is used as a sampling clock; a data receiving device comprising a ring oscillator including series-connected  $m$  first inverters connected to a first power supply line, where  $m$  is an odd number equal to or larger than 3, a delay line including series-connected  $2m$  or  $2m-1$  second inverters connected to a second power supply line, for delaying an externally

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supplied clock and outputting the thus delayed external clock from said second inverters, a PLL circuit including a voltage controlled oscillation circuit for controlling an oscillation frequency of said ring oscillator by controlling a voltage of said first power supply line, and a serial/parallel converter circuit for converting the transmitted serial data into a parallel data in units of  $n$  data, said serial/parallel converter circuit being supplied with the delayed clock obtained from said second inverters by setting the voltage of said second power supply line substantially equal to the voltage of said first power supply line; and a data receiving device comprising a ring oscillator including series-connected  $m$  first inverters connected to a first power supply line, where  $m$  is an odd number equal to or larger than 3; a delay line including series-connected  $2m$  or  $2m-1$  second inverters connected to a second power supply line, for delaying an externally supplied clock and outputting the thus delayed external clock from said second inverters; a first PLL circuit including a voltage controlled oscillation circuit for controlling an oscillation frequency of said ring oscillator by controlling a voltage of said first power supply line; a second PLL circuit for comparing a phase of the external clock with a phase of the clock outputted from said inverters of said delay line and generating a control voltage for locking the clock outputted from said inverters of said delay line; a voltage setting circuit for setting the voltage of said second power supply line on the basis of the voltage of said first power supply line and the control voltage; and a serial/parallel converter circuit for converting the transmitted serial data into a parallel data in units of  $n$  data, said serial/parallel converter circuit being supplied with the delayed clock obtained from said second inverters, as the applicant has claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Juan Alberto Torres  
01-30-2007

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